REMARKS/ARGUMENTS

Claims 1-35 were previously pending in the application. Claims 32-35 are canceled, and new claims 36-39 are added herein. Assuming the entry of this amendment, claims 1-31 and 36-39 are now pending in the application. The Applicant hereby requests further examination and reconsideration of the application in view of the foregoing amendments and these remarks.

In Form PTOL-326 accompanying the office action, the Examiner indicated that claims 1-2 and 4-7 are rejected and claims 3, 8-11, 13-14, 17, 23-25, and 29-30 are objected to. On page 2, the Examiner stated that claims 1-2, 4-7, 15-16, 19-22, 26-28, and 31-35 are rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki. On page 4, the Examiner stated that claims 3, 8-11, 13-14, 17, 23-25, and 29-30 are objected to. The Applicant requests clarification from the Examiner as to which claims are rejected. In particular, the Applicant requests clarification of the status of claims 12 and 18. For the following reasons, the Applicant submits that all of the now-pending claims are allowable over Suzuki.

Claims 1 and 5

Claim 1 is directed to a method for encoding a video stream to generate an encoded video bitstream. According to claim 1, a first original frame/region in the video stream is encoded into the encoded video bitstream using intra-frame coding to generate an encoded first frame/region. A second original frame/region in the video stream is encoded into the encoded video bitstream using motion-based predictive coding, wherein at least some motion information used during the motion-based predictive coding is excluded from the encoded video bitstream. Suzuki does not teach such a combination of features.

Suzuki teaches video encoding and decoding techniques that rely on motion-based predictive coding for at least certain frames in a video stream. However, when motion-based predictive coding is applied, all of the motion information (e.g., the motion vectors) used during the motion-based predictive coding is explicitly included in the encoded video bitstream. There is no teaching or even suggestion in Suzuki that at least some of that motion information is excluded from the encoded video bitstream.

In rejecting claim 1 on page 3, the Examiner cited elements 32 and 42 of Fig. 23 of Suzuki as teaching "an encoding mode in which at [least] some motion information used during motion-based predictive coding is excluded from the encoded video bitstream." The Applicant respectfully submits that the Examiner mischaracterized the teachings of Suzuki in rejecting claim 1.

Fig. 23 shows a block diagram of a lower layer encoding unit. See column 16, lines 22-23. Element 32 of Fig. 23 is a motion vector detector, and element 42 is a motion compensator. Motion vector detector 32 compares picture data in frame memory 31 to generate a motion vector for a 16x16 macro-block of pixel data. See, e.g., column 1, lines 41-43. Motion compensator 42 applies the prediction modes and the motion vectors generated by motion vector detector 32 to picture data in frame memory 31 to generate prediction picture data to be used by arithmetic units 33 and 40 to generate picture difference data that is then applied to DCT unit 34. See, e.g., column 2, lines 30-42. This is clearly an example of motion-based predictive coding.

In addition to being supplied to motion compensator 42, Fig. 23 clearly shows the motion vector and prediction mode data being supplied to variable-length coder (VLC) 36. In addition to variable-length encoding the quantized DCT coefficients and quantizer steps from quantizer 35, VLC 36 variable-length encodes the prediction modes and motion vectors received from motion vector detector 32 and

outputs the resulting encoded data to buffer 37 for inclusion in the encoded video bitstream. See, e.g., column 3, lines 1-5.

Thus, Fig. 23 clearly shows that all of the motion information used during motion-based predictive coding is explicitly included into the encoded video bitstream. Fig. 23 is just one figure in Suzuki showing video encoding units. Figs. 1, 4, 5, 14, 15, and 22 also show video encoding units. Each and every one of these figures explicitly shows the motion information used during motion-based predictive coding being forwarded to a variable-length coder for explicit inclusion in the resulting encoded video bitstream.

Notwithstanding the Examiner's conclusion otherwise, Suzuki does not teach a video encoder having an encoding mode in which at least some motion information used during motion-based predictive coding is excluded from the encoded video bitstream.

For all these reasons, the Applicant submits that claim 1 is allowable over Suzuki. For similar reasons, the Applicant submits that claim 5 is allowable over Suzuki. Since claims 2-4 and 6-14 depend variously from claims 1 and 5, it is further submitted that those claims are also allowable over Suzuki.

Claims 15 and 20

Claim 15 is direct to a method for decoding an encoded video bitstream to generate a decoded video stream. According to claim 15, an encoded first frame/region is decoded from the encoded video bitstream using intra-frame decoding to generate a decoded first frame/region. An encoded second frame/region is decoded from the encoded video bitstream using motion-based predictive decoding, wherein at least some motion information used during the motion-based predictive decoding is generated by performing motion computation as part of the decoding method.

As explicitly defined in the specification, "the term 'motion computation' refers to motion estimation and other types of analysis in which motion information for video streams is generated, as opposed to motion compensation, where already existing motion information is merely applied to video data." See page 2, lines 2-5, of the Specification. In the context of the present invention, motion computation analysis involves a comparison of pixel data. See page 7, line 5, to page 8, line 2, of the Specification.

Suzuki does not teach or even suggest a video decoding method that relies on such motion computation analysis. As the Examiner stated on page 4, Suzuki's "decoding process is reversible of the encoding process as disclosed in Suzuki." As described in the previous section, each and every encoding process taught in Suzuki involves all motion information used during motion-based predictive coding being explicitly included into the resulting encoded video bitstream.

Figs. 2, 7, 8, 28, 29, 30, and 31 show video decoding units. Each and every one of these figures clearly shows motion vectors and prediction modes being extracted from the encoded video bitstream and used to perform motion compensation. Not one of these figures shows an example of the motion computation analysis of the present invention being performed during motion-based predictive decoding.

For example, in Fig. 2, inverse VLC (IVLC) unit 102 variable-length decodes the encoded video bitstream data to generate decoded motion vector and prediction mode data, which is provided to motion compensator 107, which operates in the same manner as motion compensator 42 of Fig. 1 to generate prediction picture data. See column 3, lines 58-63, and column 4, lines 6-12. There is simply no

teaching in Suzuki that a video decoder performs motion computation analysis to generate motion information used during motion-based predictive decoding.

For all these reasons, the Applicant submits that claim 15 is allowable over Suzuki. For similar reasons, the Applicant submits that claim 20 is allowable over Suzuki. Since claims 16-19 and 21-31 depend variously from claims 15 and 20, it is further submitted that those claims are also allowable over Suzuki.

The Applicant submits therefore that the rejections of claims under Sections 102(b) and 103(a) have been overcome.

In view of the above amendments and remarks, the Applicant believes that the now-pending claims are in condition for allowance. Therefore, the Applicant believes that the entire application is now in condition for allowance, and early and favorable action is respectfully solicited.

Respectfully submitted,

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